

A NEW SPECIES OF *CALLISTEMON* R. Br. (MYRTACEAE) FROM EAST GIPPSLAND

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ABSTRACT

Molyneux, W. A new species of *Callistemon* R. Br. (Myrtaceae) from east Gippsland. *Muelleria* 8(1): 61–64 (1993). — *Callistemon forresterae* is described. Its relationship with *Callistemon subulatus* is discussed, and a discussion is entered into on the secondary role of the nectary/staminal ring. An illustration is provided.

INTRODUCTION

This is the first of a number of apparently new species of *Callistemon* from eastern Gippsland to be described. Like this species, they have remained mainly uncollected, or sparingly so, often due to the remoteness of their localities, and the limited numbers of plants in populations. This species is described from material collected or subsequently propagated from a single specimen, which was first collected by the author as an 'unusual form of *C. subulatus*', a confusion caused by habitat and proximity in growing close to this last named species.

All measurements and observations are taken from living material, from both the original collection and from subsequent second and third generation plants grown on the author's property.

TAXONOMY

Callistemon forresterae W. Molyneux *sp. nov.*

C. subulato E. Cheel affinis cortice grisea chartacea, foliis largioribus, costa prominenti in paginis ambabus foliorum, conflorescentia longiore malvina, floribus numero plus, staminibus numero plus 12(13–15)17 mm longis, fructibus largioribus et florescentia longiore differt.

TYPUS: Victoria, Upper Genoa River, Gippsland, below the New South Wales border, 37°16'S, 149°22'E, Apr. 1980, *W.M. Molyneux and S.G. Forrester sn*; HOLOTYPUS: MEL; ISOTYPI: NSW, CANB.

Shrub, erect, compact, ± 1.2 metres tall and ± 1 metre wide, with a single straight main stem; branches erect; new growth sericeous pink with short, mostly reclining hairs, soon becoming green. *Bark* hard, papery, grey, whiter and tightly wrapped at base of stem. *Leaves* moderately dense, spreading at $\pm 45^\circ$ to stem and branches, petioles twisted, aligning leaves more or less edge ways on to stems; lamina flexible, coriaceous, broadly linear to linear lanceolate, mucronate, often falcate, 22(33–43)55 mm long, 2.5(3.0 & 4.0)5 mm wide, mid-vein slightly raised and discernible on both surfaces, margins thickened, rounded, secondary venation not apparent, oil glands dark, scattered on both surfaces. *Conflorescence* usually distally frondose, held above horizontal or drooping, averaging 74 flowers per head, 60(90–120)120 mm long, 38(42–46)50 mm wide, rachis with short medium density sericeous hairs; green leaf-like bracts with red irregular markings, densely villous at base, regularly interrupt and attend flowers in upper end of spike, usually in top one third, as occasionally do leaves, but neither consistently; bracts dry chaffy brown, deciduous at or before anthesis. *Perigynium* 6–7 mm long, 2.5–3 mm wide, hirsute with short erect white hairs; sepals chaffy, 1 mm long, 1.8 mm wide; petals green, 4 mm long, 2.5 mm wide, with thin white margins. *Stamens* 16(20)26 per flower, 12(13–15)17 mm long; filaments free, mauve;

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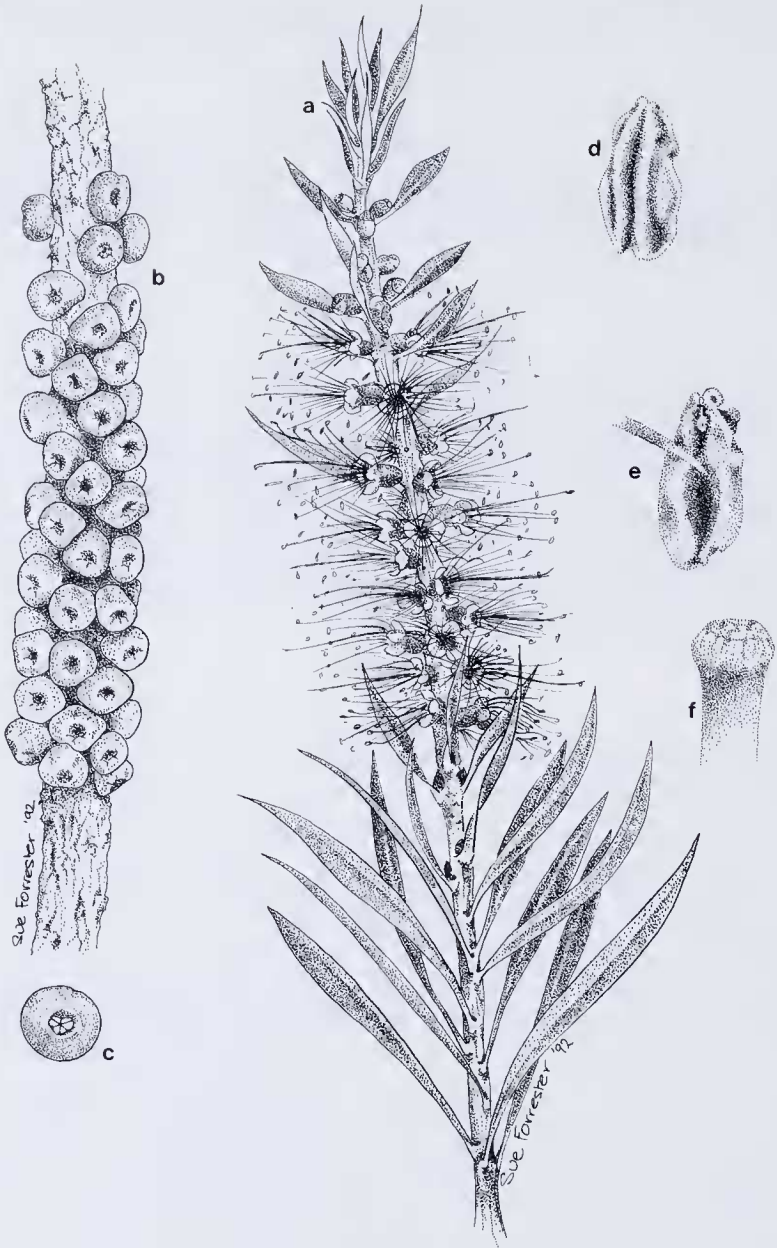


Fig. 1. *Callistemon forresterae* a — Flowering branch $\times 0.8$. b — Fruiting group $\times 0.8$. c — Single fruit, which is trilobular and sutured $\times 2.5$. d — Anther, front view $\times 25$. e — Anther, back view $\times 25$. f — Style end, pollen presenter $\times 20$.

anthers 0.8 mm, purple, gland obvious. *Ovary* trilobular, densely sericeous on summit *c.* 1 mm across, and *c.* 1 mm below rim; style nearly straight or curving, exceeding stamens by 3–10 mm, mauve, 17(20–22)24 mm long, hardly expanded behind the shallowly capitate pollen presenter, persistent after stamens fall. *Nectary* (staminal ring) expands soon after stamen drop to partially close over and

protect part of ovary summit. *Fruit* squat, often truncate, 5–8 mm wide, 4–6 mm deep, densely packed on stems, orifice 0.75–1.75 mm wide, 1 mm deep, not appearing to shed up to 8 years. (Fig. 1)

FLOWERING TIME

Mid-October to mid-January; possibly autumn.

DISTRIBUTION AND HABITAT

Known with certainty from one collection as ‘an unusual *Callistemon subulatus*’ by W.M. Molyneux and S.G. Forrester found growing out of a rock bar on the west bank of the Genoa River, less than 1 metre above autumn water levels. *C. subulatus* is not uncommon in this region, growing similarly on rock bars and on higher ground near water.

In discussing comparisons between *C. forresterae* and *C. subulatus* mention needs to be made of a possible anomaly in a distribution record of the latter.

Willis (1973, p. 451) comments that *C. subulatus* is a . . . “riparian shrub \pm 4 ft high, from Nowa Nowa eastwards”.

I am not aware of *C. subulatus* further west than Cann River, some 120 km to the east of Nowa Nowa, and there are no records from the Snowy River, a waterway which could support its riparian habit.

A compact form of *C. citrinus* does grow at Nowa Nowa on Ironstone Creek, but this is unlikely to be mistaken for *C. subulatus*, the Nowa Nowa record of which is most likely a case of an incorrect locality recording.

NOTES AND TABLE

The following table compares major differences between *C. forresterae* and *C. subulatus*; while not included in this table, *C. linearifolius* shows affinities to both compared taxa.

TABLE OF COMPARISONS BETWEEN *CALLISTEMON FORRESTERAE* AND *CALLISTEMON SUBULATUS*

<i>C. forresterae</i>	<i>C. subulatus</i>
Upright shrub \pm 1.2 m tall, \pm 1 m wide, with hard grey papery bark, becoming whiter and tightly wrapped at base of stem.	Arching shrub \pm 1 m tall, \pm 1.2 m wide, with hard dark grey interwoven bark.
Leaves broad linear to linear lanceolate, often falcate, petioles twisted at $\pm 90^\circ$	Leaves linear, mostly 90° to stems, petioles not twisted or hardly so.
Mid-vein raised on both surfaces, oil glands dark, scattered on both surfaces. Faintly citrus smell when crushed, 22(33–43)55 mm long, 2.5(3 & 4)5 mm wide.	Mid-vein obvious on lower surface, grooved, numerous small yellow or green oil glands on both surfaces. Faintly offensive smell when crushed, 15(23–28)41 mm long, 1(1–2)3 mm wide.
Conflorescence erect horizontal or drooping. Av. 74 flowers per head, 60(90–120)120 mm long, 38(42–46)50 mm wide.	Conflorescence pendant or drooping. Av. 56 flowers per head, 40(45 and 75)75 mm long, 30(34 and 48)48 mm wide.
Perigynium 6–7 mm long, 2.5–3 mm wide, hirsute with short erect white hairs; sepals chaffy, 1 mm long, 1.8 mm wide. Petals green with fine white margins, 4 mm long, 2.5 mm wide.	Perigynium 4–5 mm long, 2 mm wide, glabrous; sepals white or reddish, 1 mm long, 1.2 mm wide. Petals green, cupped, 3 mm long, 1.5 mm wide.
Stamens 16(20)26 per flower, mauve, 12(13–15)17 mm long; anthers purple, 0.8 mm.	Stamens 14(16–18)19 per flower, crimson, 8(12–20)20 mm long; anthers crimson, 1 mm.
Style nearly straight or lightly curved, mauve, 17(20–22)24 mm long, exceeding stamens by 3–10 mm, hardly expanded behind shallowly capitate pollen presenter.	Style straight or curved, crimson, 10(10–19 & 21–22)23 mm long, exceeding stamens by 2–3 mm or often of same length, expanded abruptly behind shallowly capitate pollen presenter.

Floral bracts leaf-like, green with red markings, villous at base, drying chaffy, deciduous either at or before anthesis, interrupt and attend flowers in the upper one-third of spike. Not consistent. Leaves occasionally interrupt spikes in upper one-third.

Flowering mid-Oct. to mid-Jan., possibly autumn.

Capsules squat, often truncate, 5–8 mm wide, 4–6 mm deep, orifice 0.75–1.75 mm wide, 1 mm deep, densely packed on stems; not shedding up to 8 years.

Cultivation notes: At 8 years a tall upright to slightly weeping multi-stemmed (3–8) shrub to 2.5 m tall, 2–2.2 m wide. Diameter of each individual stem c. 180 mm at 30 cm above ground level. Suckers from roots if damaged.

Floral bracts absent, or if present then filiform, reddish, with long fine white hairs, becoming deciduous at or before anthesis, or upper end of spike consistently interrupted by leaves.

Flowering early Nov. to late Dec., variable.

Capsules wine-glass shaped to squat, 2.5–4 mm wide, 2–4 mm deep, orifice 1–3 mm wide, 1 mm deep, densely packed to crowded on stems. Often shedding after 4 years.

Cultivation notes: At 8 years a small arching shrub, weeping, mostly a single but occasionally multiple (2–4) stemmed shrub to 1–1.2 m tall, 1–1.5 m wide. Diameter of stem c. 170 mm at 30 cm above ground level.

ETYMOLOGY

The specific epithet recognises one of the co-collectors of this new species, Susan Glen Forrester, and her contribution to horticulture, her writing and illustrating.

DISCUSSION ON SECONDARY ROLE OF NECTARY/STAMINAL RING

The filaments are attached to the top of an irregularly shaped ring in the throat of the floral tube, which is also the source of nectar. It would seem that nectar either rises up or is forced by pressure into the base of the filaments which are broader than upper parts of filaments, often more lightly coloured and, I would assume, porous. It is through this porous part of the filament that nectar exudes and sits in the bottom of the tube totally immersing the top of the ovary.

When pollination is complete, filaments fall and nectar flow ceases with a consequent drying-up of the general area. Prior to or concurrent with the style falling, the nectary/staminal ring commences to grow inward, to eventually form a partial shield over the top of the ovary, its eventual size determining the aperture.

In longitudinal section, this closing over forms a variable sized aperture, either almost closed or obviously open between what was the dome of the ovary and the former underside of the nectary/staminal ring, and whereas the apices of the capsules of *C. forresterae* are easily distinguished, in other species they are often densely hairy.

My guess on the function of these mechanisms is that they protect the ovary, assist temperature control to limit dessication, and deny entry to predators likely to raid seed.

ACKNOWLEDGEMENTS

Thanks are to be given to Dr Roger Spencer, with whom many discussions have been had on *Callistemon*; to Neville Walsh for willingly providing the Latin diagnosis; and to Sue Forrester for her illustrations and typing of the manuscript.

REFERENCE

- Willis, J.H. (1973) 'A Handbook to Plants in Victoria. Vol. 2: Dicotyledons.' (Melbourne University Press: Carlton.) p. 451.